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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/602,729

06/25/2003

Seoung-Bok Lee

P56898

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03/27/2007

EXAMINER

SINKANTARAKORN, PAWARIS

ART UNIT

PAPER NUMBER

2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary	Application No. 10/602,729	Applicant(s) LEE, SEOUNG-BOK	
	Examiner Pao Sinkantarakorn	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-8, 11, 12, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 9, 10, 13, 14, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claims 1-5, 8-10, 17, and 18 are objected to because of the following informalities:

regarding claim 1 line 18, the second occurrence of "PPP frame data" seems to refer to "PPP frame data" previously recited in claim 1 line 2; if this is true, it is suggested to rewritten the second "PPP frame data" as ---the PPP frame data---.

regarding claim 8 line 3, the second occurrence of "reception of all PPP frame data" seems to refer to "reception of all PPP frame data" previously recited in claim 6 line 23; if this is true, it is suggested to rewritten the second "reception of all PPP frame data" as ---the reception of all PPP frame data ---. The same is true for claim 9 line 10.

regarding claim 17 line 10, the second occurrence of "PPP packet data" seems to refer to "PPP packet data" previously recited in claim 6 line 23; if this is true, it is

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suggested to rewritten the second "PPP packet data" as ---the PPP packet data ---. The same is true for claim 17 line 6.

Regarding claim 18 line 2, the recitation "inserting unit" should be rewritten as ---an inserting unit---.

Claims 2-5, and 10 are then objected because they depend on claims 1 and 9.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 6, 11, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Jain et al. (US 2003/0081582).

Jain et al., **regarding claim 1**, disclose a deframing method, comprising:

receiving PPP frame data corresponding to a session number (see paragraphs 100 and 104, PPP headers are added to packet fragments and then transmitted to a gateway station, the packet fragments include sequence ID), storing the PPP frame data in a packet memory in dependence upon the session number, and storing reassembling information corresponding to the session number (see paragraphs 106 and 137, sequencer acts as a memory by storing out-of-order packets and re-sequence

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them in order based on the sequence ID), the receiving and the storing of the PPP frame data and the storing of the reassembling information being performed by a network controller (see paragraph 137, a sequencer is a part of the controller), the PPP frame data being data conforming to a point-to-point protocol and being fragmented (see paragraph 100 lines 1-3); and

when the receiving has been completed, reading the PPP frame data from the packet memory (see paragraphs 105 and 131, a sequencer which acts as a memory is a part of the controller) and reassembling the read PPP frame data into one integrated piece of PPP packet data (see paragraphs 106), the reading and reassembling being performed by a point-to-point protocol deframing processor (see paragraph 105-106), the reassembling being performed in dependence upon the reassembling information (see paragraph 106), the PPP packet data being data conforming to the point-to-point protocol (see paragraph 100 lines 1-3), the point-to-point protocol deframing processor and network controller being included in a packet data serving node in a mobile communication system (see paragraphs 131, the controller includes a sequencer and a fragmenter/defragmenter), the mobile communication system including a base transceiver station (see figure 2 reference numeral 202), a plurality of mobile stations linked through radio channels with the base transceiver station (see figure 2 reference numeral 120), and a host (see figure 2 reference numerals 212a-212n) connected with the packet data serving node (see figure 2 reference numeral 214) through an Internet network based on an Internet protocol (see paragraph 69 lines 3-6), the packet data serving node connected with the base transceiver station through general routing

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encapsulation tunneling based on the point-to-point protocol (see paragraph 100, PPP headers are added to packet fragments), the mobile communication system converting PPP frame data received from the base transceiver station into IP packet data (see paragraph 116, PPP header is removed from received fragments for IP packet reassembly) and transferring the IP packet data to the host, the IP packet data conforming to the Internet protocol (see paragraph 112).

Claim 6 is rejected for the same reason as claim 1, since claim 6 is an apparatus carrying out the method of claim 1.

Jain et al., **regarding claim 11**, disclose a framing method, comprising:

storing PPP packet data and control information corresponding to the PPP packet data in a packet memory (see paragraphs 106 and 137, sequencer acts as a memory by storing out-of-order packets and re-sequence them in order based on the sequence ID), the storing being performed by a network controller (see paragraph 137, a sequencer is a part of the controller), the PPP packet data being one integrated piece of PPP packet data and conforming a point-to-point protocol (see paragraph 78, the IP packet is transmitted from a terminal to another terminal; therefore, it is a point-to-point transmission using PPP);

reading the PPP packet data and the control information from the packet memory (see paragraph 78, a terminal receives a packet and determines its IP address); and fragmenting the read PPP packet data into a plurality of pieces of PPP frame data according to size information included in the control information (see paragraph 79, number of fragments depend on the size of the IP packet), the PPP frame data being

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data conforming the point-to-point protocol (see paragraph 100 lines 1-3), the reading and fragmenting being performed by a point-to-point protocol framing processor (see paragraph 78-79, controller includes a processor, which fragments the IP data packet), the plurality of pieces of PPP frame data including a first piece of PPP frame data and a last piece of PPP frame data, with a start flag being inserted into the first piece of PPP frame data and an end flag being inserted into the last piece of PPP frame data (see paragraph 80, a fragment header includes a fragment ID, which includes a start and end flag), the plurality of pieces of PPP frame data being transmitted to a base transceiver station, the network controller and the point-to-point protocol framing processor being included in a packet data serving node in a mobile communication system (see paragraphs 131, the controller includes a sequencer and a fragmenter/defragmenter), the mobile communication system including the base transceiver station (see figure 2 reference numeral 202), a plurality of mobile stations linked through radio channels with the base transceiver station (see figure 2 reference numeral 120), and a host (see figure 2 reference numerals 212a-212n) connected with the packet data serving node (see figure 2 reference numeral 214) through an Internet network based on an Internet protocol (see paragraph 69 lines 3-6), the packet data serving node connected with the base transceiver station through general routing encapsulation tunneling based on the point-to-point protocol (see paragraph 100, PPP headers are added to packet fragments), the mobile communication system converting IP packet data received from the host into the PPP frame data (see paragraph 100, PPP headers are added to packet fragments) and transferring the PPP frame data to the base transceiver station

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(see paragraph 100-101, packet fragments are processed in accordance with PPP and RLP protocols to the receiver), the IP packet data conforming to the Internet protocol.

Claim 15 is rejected for the same reason as claim 11, since claim 15 is an apparatus carrying out the method of claim 11.

Claim Rejections - 35 USC § 103

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2, 3, 7, 8, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jain et al. in view of Hamalainen et al. (US 5,978,386).

Jain et al., **regarding claim 2**, disclose all the subject matter discussed above and also storing information in the packet memory, the storing of the information being performed by the network controller. However, Jain et al. do not disclose: storing de-stuffing information; and de-stuffing the PPP frame data, the de-stuffing being performed by the point-to-point protocol deframing processor.

The invention of Hamalainen et al. from the same or similar fields of endeavor disclose a method of de-stuffing the control data, the de-stuffing being performed by the point-to-point protocol deframing processor (see column 7 lines 59-66 and column 9 lines 21-23, removing stuffing bytes because stuffing bytes contain no real information).

Thus, it would have been obvious to the person of ordinary skill in the art to implement the method of storing de-stuffing information in the memory and de-stuffing frame data into the deframing method of Jain et al.

The motivation for implementing the method of storing de-stuffing information and de-stuffing frame data based on the de-stuffing information is that it provides better transmission capacity.

Claim 7 is rejected for the same reason as claim 2, since claim 7 is an apparatus carrying out the method of claim 2.

Jain et al., **regarding claim 3**, disclose all subject matter discussed above in claim 1 and also the reassembling of the PPP frame data comprising:

reading the PPP frame data, the reassembling information, each corresponding to the session number, through a predetermined bus connected to the packet memory (see paragraphs 105 and 131, a sequencer which acts as a memory is a part of the controller);

inputting the session number corresponding to the PPP frame data to generate a memory address corresponding to the session number (see paragraph 137, a sequencer reads the sequence ID in order to sequence the packet fragments);

temporarily storing the byte de-stuffed PPP frame data in accordance with the generated memory address (see paragraph 137, a sequencer stores the out-of-order packet fragments based on the sequence ID until it receives all of the packet fragments); and

when reception of all of the PPP frame data corresponding to the session number has been completed, outputting the one integrated piece of PPP packet data formed of the PPP frame data stored according to the memory address (see paragraph 132, a defragmenter assembles packet fragments after all of the packet fragments have been received and sequenced by a sequencer).

However, Jain et al. do not disclose a method of reading de-stuffing information and performing byte de-stuffing for the stuffed data in dependence upon the read de-stuffing information. The invention of Hamalainen et al. from the same or similar fields of endeavor disclose a method of de-stuffing the control data, the de-stuffing being performed by the point-to-point protocol deframing processor (see column 7 lines 59-66

and column 9 lines 21-23, removing stuffing bytes because stuffing bytes contain no real information).

Thus, it would have been obvious to the person of ordinary skill in the art to implement the method of storing de-stuffing information in the memory and de-stuffing frame data into the deframing method of Jain et al.

The motivation for implementing the method of storing de-stuffing information and de-stuffing frame data based on the de-stuffing information is that it provides better transmission capacity.

Claim 8 is rejected for the same reason as claim 3, since claim 8 is an apparatus carrying out the method of claim 3.

Jain et al., **regarding claim 12**, disclose all the subject matter of the claimed invention discussed above except stuffing for each piece of the PPP frame data when stuffing is required by the control information, the stuffing being performed by the point-to-point protocol framing processor.

The invention of Hamalainen et al. from the same or similar fields of endeavor disclose a byte stuffing protocol, which stuff null data into data frames (see column 8 lines 6-12 and column 9 lines 7-10).

Thus, it would have been obvious to the person of ordinary skill in the art to implement the byte stuffing protocol as taught by Hamalainen et al. into the framing method of Jain et al.

The motivation for implementing the byte stuffing protocol is that it provides a more efficient transmission method by synchronizing frames with stuffing bytes.

Claim 16 is rejected for the same reason as claim 12, since claim 16 is an apparatus carrying out the method of claim 12.

Allowable Subject Matter

10. Claims 4, 5, 9, 10, 13, 14, 17, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Asahina (US 6,982,963), Lim (US 2002/0057662), and Noda et al. (US 2002/0176427) are all cited to show systems/methods that are considered pertinent to the claimed invention.

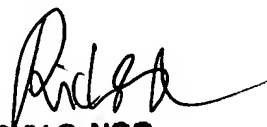
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pao Sinkantarakorn whose telephone number is 571-270-1424. The examiner can normally be reached on Monday-Thursday 9:00am-3:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PS



RICKY Q. NGO
SUPERVISORY PATENT EXAMINER